

## WHAT IS CLAIMED IS:

1. An isolated or recombinant polynucleotide  
encoding an antigenic polypeptide comprising:  
5 a) at least 17 contiguous amino acids from the mature  
polypeptide from SEQ ID NO: 2;  
b) at least 17 contiguous amino acids from the mature  
polypeptide from SEQ ID NO: 4;  
c) at least 17 contiguous amino acids from the mature  
polypeptide from SEQ ID NO: 6:  
10 d) at least 17 contiguous amino acids from the mature  
polypeptide from SEQ ID NO: 8:  
e) at least 17 contiguous amino acids from the mature  
polypeptide from SEQ ID NO: 13:  
15 f) at least 17 contiguous amino acids from the  
polypeptide from SEQ ID NO: 15:  
g) at least 17 contiguous amino acids from the  
polypeptide from SEQ ID NO: 17: or  
h) at least 17 contiguous amino acids from the  
polypeptide from SEQ ID NO: 19.  
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2. The polynucleotide of Claim 1, encoding all of  
the polypeptide of:  
25 a) mature SEQ ID NO: 2;  
b) mature SEQ ID NO: 4;  
c) mature SEQ ID NO: 6;  
d) mature SEQ ID NO: 8;  
e) mature SEQ ID NO: 13;  
f) SEQ ID NO: 15;  
30 g) SEQ ID NO: 17; or  
h) SEQ ID NO: 19.

3. The polynucleotide of Claim 1, which hybridizes  
at 55° C, less than 500 mM salt, and 50% formamide to:  
35 a) the mature polypeptide coding portion of SEQ ID  
NO: 1;

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b) the mature polypeptide coding portion of SEQ ID NO: 3;

c) the mature polypeptide coding portion of SEQ ID NO: 5;

5 d) the mature polypeptide coding portion of SEQ ID NO: 7;

e) the mature polypeptide coding portion of SEQ ID NO: 12;

f) the polypeptide coding portion of SEQ ID NO: 14;

10 g) the polypeptide coding portion of SEQ ID NO: 16; or

h) the polypeptide coding portion of SEQ ID NO: 18.

4. The polynucleotide of Claim 3, comprising:

15 a) at least 35 contiguous nucleotides of the mature coding portion of SEQ ID NO: 1;

b) at least 35 contiguous nucleotides of the mature coding portion of SEQ ID NO: 3;

c) at least 35 contiguous nucleotides of the mature coding portion of SEQ ID NO: 5;

20 d) at least 35 contiguous nucleotides of the mature coding portion of SEQ ID NO: 7;

e) at least 35 contiguous nucleotides of the mature coding portion of SEQ ID NO: 12;

f) at least 35 contiguous nucleotides of the coding portion of SEQ ID NO: 14;

25 g) at least 35 contiguous nucleotides of the coding portion of SEQ ID NO: 16; or

h) at least 35 contiguous nucleotides of the coding portion of SEQ ID NO: 18.

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5. An expression vector comprising the polynucleotide of Claim 1.

35 6. A host cell containing the expression vector of Claim 5, including a eukaryotic cell.

7. A method of making an antigenic polypeptide comprising expressing a recombinant polynucleotide of Claim 1.

5 8. A method for detecting a polynucleotide of Claim 1, comprising contacting said polynucleotide with a probe that hybridizes, under stringent conditions, to at least 25 contiguous nucleotides of:

10 a) the polynucleotide comprising the signal processed coding portion of SEQ ID NO: 1;

b) the polynucleotide comprising the signal processed coding portion of SEQ ID NO: 3;

c) the polynucleotide comprising the signal processed coding portion of SEQ ID NO: 5;

15 d) the polynucleotide comprising the signal processed coding portion of SEQ ID NO: 7;

e) the polynucleotide comprising the signal processed coding portion of SEQ ID NO: 12;

f) the polynucleotide comprising the coding portion of SEQ ID NO: 14;

20 g) the polynucleotide comprising the coding portion of SEQ ID NO: 16; or

h) the polynucleotide comprising the coding portion of SEQ ID NO: 18;

25 to form a duplex, wherein detection of said duplex indicates the presence of said polynucleotide.

9. A kit for the detection of a polynucleotide of Claim 1, comprising a compartment containing a probe that hybridizes, under stringent hybridization conditions, to at least 17 contiguous nucleotides of a polynucleotide of Claim 1 to form a duplex.

10. The kit of claim 9, wherein said probe is detectably labeled.

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11. A binding compound comprising an antibody binding site which specifically binds to:

- a) at least 17 contiguous amino acids from the signal processed form of SEQ ID NO: 2;
- 5 b) at least 17 contiguous amino acids from the signal processed form of SEQ ID NO: 4;
- c) at least 17 contiguous amino acids from the signal processed form of SEQ ID NO: 6;
- d) at least 17 contiguous amino acids from the signal processed form of SEQ ID NO: 8;
- e) at least 17 contiguous amino acids from the signal processed form of SEQ ID NO: 13;
- f) at least 17 contiguous amino acids from SEQ ID NO: 15;
- 15 g) at least 17 contiguous amino acids from SEQ ID NO: 17; or
- h) at least 17 contiguous amino acids from SEQ ID NO: 19.

20 12. The binding compound of Claim 11, wherein:

- a) said antibody binding site is:
  - 1) selectively immunoreactive with a polypeptide of the signal processed form of SEQ ID NO: 2;
  - 25 2) selectively immunoreactive with a polypeptide of the signal processed form of SEQ ID NO: 4;
  - 3) selectively immunoreactive with a polypeptide of the signal processed form of SEQ ID NO: 6;
  - 30 4) selectively immunoreactive with a polypeptide of the signal processed form of SEQ ID NO: 8;
  - 5) selectively immunoreactive with a polypeptide of the signal processed form of SEQ ID NO: 13;

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6) selectively immunoreactive with a polypeptide of SEQ ID NO: 15;

7) selectively immunoreactive with a polypeptide of SEQ ID NO: 17;

5 8) selectively immunoreactive with a polypeptide of SEQ ID NO: 19; or

b) said binding compound is:

1) an antibody molecule;

2) a polyclonal antiserum;

3) detectably labeled;

4) sterile; or

5) in a buffered composition.

13. A method using the binding compound of Claim 11, comprising contacting said binding compound with a biological sample comprising an antigen, thereby forming a binding compound:antigen complex.

14. The method of Claim 13, wherein said biological sample is from a human, and wherein said binding compound is an antibody.

15. A detection kit comprising said binding compound of Claim 12, and:

25 a) instructional material for the use of said binding compound for said detection; or

b) a compartment providing segregation of said binding compound.

30 16. A substantially pure or isolated antigenic polypeptide, which binds to said binding composition of Claim 11, and further comprises at least 17 contiguous amino acids from:

35 a) the signal processed polypeptide from SEQ ID NO: 2;

b) the signal processed polypeptide from SEQ ID NO: 4;

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- c) the signal processed polypeptide from SEQ ID NO: 6;
- d) the signal processed polypeptide from SEQ ID NO: 8;
- e) the signal processed polypeptide from SEQ ID NO: 13;
- f) SEQ ID NO: 15;
- g) SEQ ID NO: 17; or
- h) SEQ ID NO: 19.

17. The polypeptide of Claim 16, which:

- a) comprises at least a fragment of at least 25 contiguous amino acid residues from a signal processed primate HDTEA84 protein;
- b) comprises at least a fragment of at least 25 contiguous amino acid residues from a signal processed primate HSLJD37R protein;
- c) comprises at least a fragment of at least 25 contiguous amino acid residues from a signal processed rodent RANKL protein; or
- d) comprises at least a fragment of at least 25 contiguous amino acid residues from primate RANKL protein;
- e) is a soluble polypeptide;
- f) is detectably labeled;
- g) is in a sterile composition;
- h) is in a buffered composition;
- i) binds to an sialic acid residue;
- j) is recombinantly produced, or
- k) has a naturally occurring polypeptide sequence.

18. The polypeptide of Claim 17, which:

- a) comprises at least 17 contiguous amino acids of the signal processed SEQ ID NO: 2;
- b) comprises at least 17 contiguous amino acids of the signal processed SEQ ID NO: 4;

- c) comprises at least 17 contiguous amino acids of the signal processed SEQ ID NO: 6;
- d) comprises at least 17 contiguous amino acids of the signal processed SEQ ID NO: 8;
- e) comprises at least 17 contiguous amino acids of the signal processed SEQ ID NO: 13;
- f) comprises at least 17 contiguous amino acids of SEQ ID NO: 15;
- g) comprises at least 17 contiguous amino acids of SEQ ID NO: 17; or
- h) comprises at least 17 contiguous amino acids of SEQ ID NO: 19.

19. A method of modulating a precursor cell physiology or function comprising a step of contacting said cell with:

- a) a binding compound which binds to said polypeptide of Claim 16;
- b) an HDTEA84 polypeptide;
- c) an HSLJD37R polypeptide; or
- d) a RANKL polypeptide.

20. The method of Claim 19, wherein said contacting  
is in combination with a TNF family ligand, or an  
25 antagonist of said TNF family ligand.